

U.S. Patent Application Serial NO. 09/841,422
Reply to Office Action mailed November 30, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Claims 6 and 9 are amended.

Claims 1-5, 7-8, and 10-15 are canceled.

Listing of Claims:

1-5. (Canceled)

6. (Currently Amended) The A system of claim 5, for the take-off of the materials using a two-dimensional CAD interface, in a computer terminal having a CAD system for creating a variety of design items for architecture, civil engineering, machinery, and facilities in a CAD drawing, comprising:

project information containing means for containing project information including position data, design specifications, and shape data for a variety of design items;

material/cost containing means for containing material information and cost information for building elements included in a CAD drawing in which a variety of design items for a project are stated; and

bill-of-material take-off processing means for the take-off of the materials and cost for an object by analyzing position information, shape information, and material information for building elements included in the CAD drawing created by the CAD system with reference to the project information of the project information containing means and the material information and cost information of the material/cost containing means,

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wherein the bill-of-material take-off processing means comprises:

a device for extracting position information by extracting a room code having a name and a position code for building elements for each building, floor, and room of the CAD drawing and correcting and supplementing an entity of the CAD drawing with reference to the project information of the project information containing means;

a device for extracting shape information for building elements for each building, floor, and room having a given position information;

wherein the device for extracting shape information extracts shape information for forming a closed curve with center on a reference line intersected by objects having a given room code by analyzing line data, surface data, and portion data for building elements for each building, floor, and room included in the CAD drawing,

a device for selecting a composite material code of the material/cost containing means and linking the same with materials included in each building element; and

a device for the take-off of the materials and cost,

wherein the device for selecting a composite material code and linking the same links the position and shape of an object as a single information by transferring the handle value of a polyline entity of the closed curve from room name code entity data to extended data.

7-8. (Canceled)

9. (Currently Amended) A ~~[[The]]~~ method of claim 8, for the take-off of the materials using

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a two-dimensional CAD interface, comprising the steps of:

extracting position information for building elements for each building, floor, and room included in the CAD drawing, and correcting and supplementing an entity of the drawing with reference to the project information corresponding to the CAD drawing;

extracting object shape information for building elements for each building, floor, and room having the taken-off position information and linking the position information of an object with the shape information.

wherein the step of taking-off object shape information comprises the steps of:

executing drawing for entering the code of surface data included in the CAD drawing and calculating area data;

executing drawing for entering the code of line data and calculating horizontal and longitudinal lengths;

entering the code of portion data in order to calculate a bill of materials;
and

taking-off shape information by generating a closed curve with center on an object reference line for building elements for each building, floor, and room by the area data, horizontal and longitudinal length data, and portion data,

wherein, in the step of linking the position information and shape information for an object, the position and shape of an object are linked with each other as single information by transferring a handle value of a polyline entity of the closed curve to the extended data in the room name code entity data;

selecting a composite material code for materials included in the building elements and

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integrating the composite material code for the position information and shape information as a finish number; and

taking-off of the material and cost information for each building element with reference to the selected material code.

10-15. (Canceled)